Isofraxidin

Cat. No.: HY-N0774

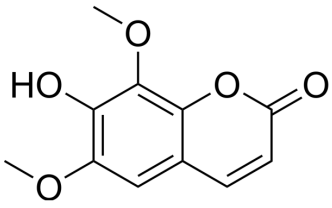
CAS No.: 486-21-5

Molecular Formula: $C_{11}H_{10}O_5$

Molecular Weight: 222.19

Target: COX; MMP; Toll-like Receptor (TLR); ERK

Pathway: Immunology/Inflammation; Metabolic Enzyme/Protease; MAPK/ERK Pathway; Stem Cell/Wnt



Storage:

Powder	-20°C	3 years
	4°C	2 years
In solvent	-80°C	6 months
	-20°C	1 month

SOLVENT & SOLUBILITY

In Vitro

DMSO : 250 mg/mL (1125.16 mM; Need ultrasonic)

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	4.5007 mL	22.5033 mL	45.0065 mL
5 mM	0.9001 mL	4.5007 mL	9.0013 mL
10 mM	0.4501 mL	2.2503 mL	4.5007 mL

Please refer to the solubility information to select the appropriate solvent.

In Vivo

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.08 mg/mL (9.36 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.08 mg/mL (9.36 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Isofraxidin, a coumarin component from Acanthopanax senticosus, inhibits MMP-7 expression and cell invasion of human hepatoma cells. Isofraxidin inhibits the phosphorylation of ERK1/2 in hepatoma cells[1]. Isofraxidin attenuates the expression of iNOS and COX-2, Isofraxidinalso inhibits TLR4/myeloid differentiation protein-2 (MD-2) complex formation[2].

IC_{50} & Target			
	COX-2	TLR4	MMP-7

In Vitro

Isofraxidin inhibits expression of MMP-7 and in vitro cell invasion at a non-toxic level through inhibiting ERK1/2 phosphorylation in hepatoma cell lines[1].
Isofraxidin competitively inhibits TLR4/MD-2 complex formation, and thus TLR4/NF-κB signalling cascades.Isofraxidin has

potential in the treatment of Osteoarthritis (OA)[2].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

CUSTOMER VALIDATION

- Int Immunopharmacol. 2024 Mar 12:131:111814.

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REFERENCES

[1]. Yamazaki T, et al. Isofraxidin, a coumarin component from Acanthopanax senticosus, inhibits matrix metalloproteinase-7 expression and cell invasion of human hepatoma cells.Biol Pharm Bull. 2010;33(10):1716-22.

[2]. Jin J , et al. Isofraxidin targets the TLR4/MD-2 axis to prevent osteoarthritis development.Food Funct. 2018 Nov 14;9(11):5641-5652.

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